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ABSTRACT

Australia's transport and storage industry is a large, diverse sector covering all forms of transport operation, including road, rail, air, and sea, and related services: stevedoring, port operations, customs agencies, and travel agencies. Employment in this industry has not grown as quickly over the last decade as employment in general. Under pressure of competition, the government-owned rail sector has sustained substantial job losses. In the 1990s, the industry has increased its gross product more rapidly than the total economy. The recent Asian financial crisis has slowed down the tourist market. About 77 percent of workers are males and around 87 percent of jobs are full time. They are somewhat older than those in the whole workforce, and average weekly hours worked are relatively high. Greater concentrations of employment are in Queensland, New South Wales, and Tasmania. Occupational composition varies substantially from the overall pattern of the labor force. The bulk of workers, 46 percent, are in the intermediate production and transport occupational group, including the largest full-time occupation category for males in Australia, truck driver. The industry receives only a small level of direct government funding for vocational education and training (VET) provision. Employers are relatively dissatisfied with VET provision; VET graduates are less critical. Employers in the air transport sector are among the highest spenders of all industry groups on structured training for employees. (Appendix include five tables.) (YLB)

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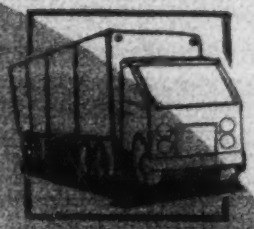

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Transport and storage

1998

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Preface

THE TRANSPORT AND storage industry training monograph is one of a series of monographs which has been designed to provide readers with an overview of occupational trends and the current training effort in each industry in Australia.

The monograph analyses data at the major Australian and New Zealand Standard Industry Classification (ANZSIC) industry division level, given that it is at this level most data are collected and disseminated. The monograph addresses:

- recent employment trends
- recent occupational trends in key skills areas
- current training arrangements, particularly training levels and outputs

The monographs bring together for the first time a range of survey data from the Australian Bureau of Statistics (ABS), together with graduate destination, employer satisfaction with trainir and other training data compiled for the Australian National Training Authority (ANTA) by the National Centre for Vocational Education Research (NCVER).

I would like to thank Tom Dumbrell for preparing these monographs and I would also like to acknowledge John Ray's contribution to the analysis of employment and occupation data.

NCVER acknowledges ANTA's significant contribution to the cost of this monograph in sponsoring its publication.

I hope that the material in this publication will be of interest to Australia's vocational, education and training (VET) sector. In particular the document is designed for industry decision-makers, policy-makers, teachers and trainers, researchers and students with an interest in VET.

Readers who are interested in more information about training markets or other areas of VET research are referred to the NCVER's research database, VOCED. Printed and diskette versions of VOCED can be obtained from NCVER (ph +61 8 8333 8400) or it can be accessed directly on the world wide web at the following address:

<http://www.ncver.edu.au/voced.htm>

Chris Robinson, National Centre for Vocational Education and Research Ltd

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The transport and storage industry in Australia

Overview

THE TRANSPORT AND storage industry is a diverse sector that covers all forms of transport operation, including road, rail, air and sea, as well as related services to transport such as stevedoring, port operations, customs agencies and travel agencies. In this regard it is closely related both to the 'tourist industry', which is not an official category under the Australian Bureau of Statistics (ABS) classification system, and to the broader operation of the Australian economy in its role of moving and storing raw commodities and finished goods.

Employment in the industry has not grown as quickly over the last decade as has employment in general, growing by less than 4.5% over the ten years to November 1997, compared with about 13.5% for total employment. The industry's employment has been affected by economic fluctuations in the Australian and world economy over the last decade and has fluctuated in line with these movements.

The various sectors making up the industry have shown different employment movements over the decade. These are shown in chart 9.1 and in table A9.2 in the appendix. In brief, the government-owned rail sector has been subject to substantial job losses under pressure of competition from competing transport sectors.

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Nevertheless, over the 1990s the transport and storage industry has increased its gross product more rapidly than the total economy, indicating that productivity has risen in the industry in recent years. This might reflect the substantial change that has occurred in the industry's composition over the decade, with very strong growth in employment in air and water transport, offset by more than a 40% decline in rail transport employment.

It is unlikely that the industry will sustain significant employment growth in those areas related to international tourism over the next two to three years, given the reduction in tourist numbers from Asia. Some growth will occur, however, as a result of continuing domestic growth both in tourism and in the other sectors of the economy related to transport and storage. The final impact of the recent waterfront dispute on stevedoring employment is still unknown.

The industry is characterised by male, full-time employment. About 77% of the workers in the industry are males and around 87% of the jobs are full time. The workers in the industry are somewhat older than those in the whole workforce and average weekly hours worked in the industry are relatively high.

The industry is not distributed on a geographical basis in the same proportion as the total workforce, with greater concentrations of employment in Queensland, New South Wales and Tasmania. The industry employs a slightly above-average proportion of workers born overseas.

The occupational composition of the sector varies substantially from the overall pattern of the Australian labour force. A relatively small proportion of the industry's workforce are classified in the professional, associate professional and trades categories while the bulk of workers, 46%, are classified under the intermediate production and transport occupational group. This includes the largest full-time occupation category for males in Australia, truck driver, which accounts for 170 000 male full-time jobs, as well as the large storepersons occupation, which includes over 73 000 persons.

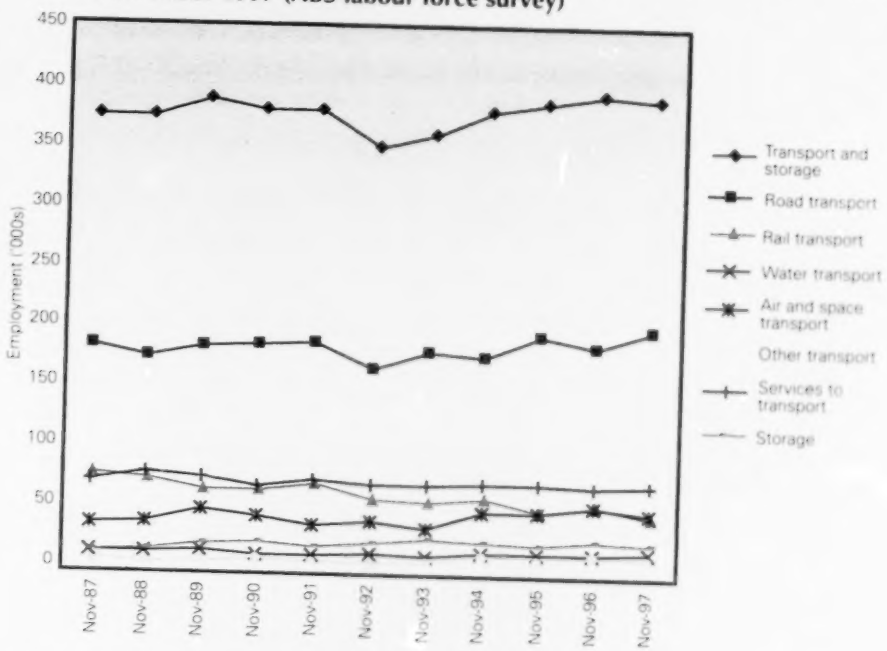
The industry has a high proportion of workers without any post-school qualifications and a low share of workers with university or higher-level vocational education and training (VET) credentials. Despite having a relatively low share of trade-level occupations, there is an above-average share of workers with trades qualifications. This suggests that some tradespersons who leave their trade move into this industry, perhaps using their trade skills in the maintenance of vehicles.

The industry appears to receive only a small level of direct government funding for the provision of VET. In terms of government-funded hours of VET per employee in the industry, it receives the lowest level of funding of all industry training areas.

In the survey on employer satisfaction with VET for 1997 (ESS), compiled by the National Centre for Vocational Education Research (NCVER), employers in the industry rated the provision of VET the third lowest overall satisfaction rating of all industries in Australia. In the technical and further education (TAFE) graduate destination survey for 1997 (GDS), also compiled by NCVER, VET graduates working in the sector were not as critical, giving satisfaction scores that were close to average for graduates employed. Both employers and graduates identified the need to improve the balance between theory and practice in the courses leading to employment in the transport and storage industry as a priority. Graduates also identified problems with the provision of appropriate equipment for practising skills and inadequate provision of information on jobs and careers. Employers identified a need for improvement in the work ethic of graduates.

The air transport sector stands out as one of the industry sectors providing high levels of structured training for its employees. While the other parts of the transport and storage industry provided average levels of structured training, air transport spent about three times the all-industry average in training their employees and provided about 2.5 times the number of training hours per employee.

Chart 9.1: Employment trends in transport and storage, by sub-division, November 1987–November 1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

An industry snapshot

The Australian transport and storage industry covers activities in road, rail, air, and water and sea transport. It also includes a range of associated services such as storage, stevedoring and port operations, travel agencies, customs agency services, parking services, taxis and pipeline transport.

With 389 000 persons employed across the range of the above activities (ABS, *Labour force, Australia*, cat.6203.0, November 1997), the industry represents just over 4.5% of total jobs in Australia. In 1995–1996 the industry's gross product represented about 6% of total Australian gross product. Over the 1990s, gross product in this sector has grown more rapidly than total gross domestic product (GDP). Using ABS data for the 1994–1995 year, there were 45 500 businesses classified in the transport and storage industry, with 44 100 of them classified as small businesses.

There is great diversity of ownership types within the broad industry grouping and considerable government involvement in the industry through market regulation and service provision in the case of rail transport. Almost 16% of the workers in the industry are classified as either owners of businesses or as own-account workers, rather than as employees, a little above the 14% of all workers across all industries classified in these categories.

The industry is strongly male dominated with over 77% of all workers males. Nearly 87% of the jobs in the industry are full time, compared with 74% across all

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industries. In these features the industry is similar to manufacturing, wholesale, construction, and communication services. The ABS divides the transport and storage industry into seven sub-divisions. As the following table shows, the road transport sub-division is by far the largest area of employment.

Table 9.1: Employment ('000s) in transport and storage by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Road transport	169.4	27.5	170.4	26.6	197.0
Rail transport	37.1	4.6	41.4	0.2*	41.6
Water transport	9.2	2.9*	10.1	2.0*	12.1
Air and space transport	29.7	16.0	38.5	7.1	45.6
Other transport	4.1	2.2*	5.2	1.1*	6.3
Services to transport	37.1	30.3	55.7	11.6	67.3
Storage	14.7	4.4	17.1	2.0*	19.0
Total	**301.2**	**87.8**	**338.3**	**50.6**	**389.0**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Chart 9.1 shows the changes in employment levels in the industry that have occurred over the last 10 years. Overall, the level of employment has grown little over the last decade, rising by 4.2% between 1987 and 1997. The sub-divisions within the industry have shown varying trends in their employment over this time.

Employment in rail transport has fallen sharply over recent years. Other than the services to transport sector, which has remained relatively unchanged, all other areas of transport and storage have risen over the decade. Table A9.3 in the appendix provides details of actual employment levels from November 1987.

Rail transport

Almost all rail operations in Australia are government owned. Employment in the rail transport sector has fallen dramatically, from a level of about 74 000 jobs in 1987 to 41 600 in 1997, a fall of more than 40%. In 1987, rail transport accounted for just under 20% of all transport and storage sector jobs. By 1997 it represented just over 10%.

Rail is still, nevertheless, an important part of the nation's transport infrastructure. It carries about 40% of all interstate freight in Australia. In 1995–1996 there were more than 445 000 000 passenger journeys on Australian railways, up by about 3% on the previous year. New South Wales has by far the largest rail system in terms of passenger journeys, accounting for 58% of all Australian passenger journeys in 1995–1996.

Australian transport ministers have reached agreements over the greater integration of the Australian rail systems, which have mainly been operated as discrete entities by State governments. The longer-term aim of these agreements is to allow faster, more efficient rail services, operating under uniform conditions across State boundaries.

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Air transport

The air transport sector in Australia is comprised of general aviation, regional airlines, and domestic and international airlines. Over the last decade the industry has grown by 12 500 positions or by over 40%, providing the second largest number of new jobs out of the sub-divisions within this industry. Only the road transport sector has grown faster. Continuation of this rate of growth is unlikely over the medium term.

General aviation is non-scheduled activity, such as agricultural spraying, recreational use of all aircraft, medical services, training, aerial surveying, charter flights and search and rescue operations. Over the decade to 1994–1995, total hours flown in general aviation rose by over 7%, with the main growth components of this activity in the charter and training areas. Private, business and agricultural hours flown declined over that decade.

Regional airlines are those services that operate regular scheduled flights between lower demand centres and major regional centres, such as Sydney-Belmont and Melbourne-Devonport. Regional airlines are defined as those airlines with fleets having 38 seats or less per plane.

The distinction between domestic airlines and Australian international airlines has disappeared with the introduction of international flights by Ansett and the merger of Australian Airlines and QANTAS into the one company. The main Australian domestic routes in 1995 were Sydney–Melbourne (4.6 million passengers a year), Sydney–Brisbane (3.03 million passengers) and Sydney–Coolangatta (1.34 million passengers).

In 1995, over 12 million trips into and out of Australia occurred on international airlines. The most common routes were between Australia and New Zealand, Japan, Singapore and the United States of America. In 1996 the number of trips rose to over 13.3 million. Almost half of all international passengers passed through Sydney airport. Melbourne and Brisbane both accounted for about 14% each, with the next two busiest international terminals being Perth and Cairns.

Between 1994 and 1996, activity at Sydney international airport rose by 21.5%, at Brisbane by 30%, and at Melbourne by 17%. Several Australian international airports saw a drop off in business over the period, including Adelaide, Norfolk Island and Hobart.

The recent Asian financial crisis appears to have slowed down the inbound tourist market from what had been, up to mid-1997, the fastest growing component of that market. Major growth markets had been Indonesia, Malaysia, Korea and Thailand. The Tourism Forecasting Council has developed three possible scenarios for tourism growth over the next nine years. The middle scenario would see tourism growth from Asia averaging around 5% per year up to 2006, well below the 20–30% range experienced in the mid-1990s for the non-Japan part of Asia.

Road transport

Road transport is by far the largest element of the transport and storage industry with almost 200 000 workers in the sector. The sector includes interstate road transport of goods, coach operations, taxis, buses, trams and furniture removals. (Courier services, however, are included in communication services.)

Employment levels have shown several marked fluctuations over the last decade, dipping in 1988 and again more deeply in 1992. Total employment, however, has grown by more than 9% over the last decade, providing the largest number of new jobs within the transport industry out of all the sub-divisions.

Australia has an extensive road system with low-average density of usage compared with other geographically large countries. About half of all road travel is for purposes other than private use. There are about 500 000 heavy transport vehicles in Australia. Over two-thirds of non-bulk commodities transported in Australia are carried by road transport, and most of this occurs on about 20% of the road system.

Sea transport

The sea transport sub-division has experienced a strong growth rate over the last decade although, as table 9.1 shows, it is the second smallest sub-division within the industry, employing just over 12 000 persons. In 1996 Australia had a trading fleet of 82 vessels exceeding 150 gross tonnes, with only seven of these registered overseas. The sea transport sector is divided between coastal trade with 42 vessels, overseas trade, 25 vessels and 15 other vessels.

The major commodities exported by sea from Australia are iron ore and coking coal which, together, make up more than two-thirds of total commodity exports by weight. Australia exports, by weight, over 370 million tonnes and imports over 47 million tonnes of commodities each year, mainly as bulk commodities in tankers and gas carriers. The main export ports in Australia for bulk commodities are Dampier, Port Hedland and Newcastle, while for non-bulk products they are Melbourne, Sydney/Port Botany, Brisbane and Fremantle.

Services to transport and other transport

This sub-division includes the transport-related activities of stevedoring, port operations, parking stations, road freight forwarding, customs agencies and travel agencies, together with pipeline transport and other transport not included elsewhere. Combined, these areas have grown only marginally over the last decade, with all the growth occurring in the very small 'other transport' sector, probably reflecting the development of natural gas pipelines.

Storage

This sector covers the important area of grain storage and other storage, such as the growing market for temporary storage of domestic goods. Employment in the sub-division has grown very strongly over the last decade, more than doubling its numbers from under 9000 in 1987 to about 19 000 in 1997.

Employment characteristics of the industry

Most jobs in this industry are located in New South Wales, Queensland and Victoria as shown in table 9.2. Table 9.3 shows the relative shares of jobs in transport and storage compared with total employment. It shows that Queensland, in particular, and New South Wales and the Northern Territory, to a lesser extent, have a disproportionate share of jobs in this industry, while all the other States have a lower-than-average share of jobs in this sector.

Table 9.2: Employment ('000s) in transport and storage by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	101.1	70.0	68.2	23.1	28.1	6.2	2.5*	2.8*
Females	27.4	15.2	19.2	4.3	6.2	1.4*	1.6*	1.2*
Total	**128.5**	**85.2**	**87.4**	**27.4**	**34.4**	**7.6**	**4.2**	**4.0**

Note: Some totals are not sum of components due to rounding

*Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Table 9.3: Share of employment in transport and storage by State, by share of total jobs, 1995

State	Share of jobs in transport and storage industry	% employed in all industries
NSW	34.0	33.1
Vic	22.5	24.7
Qld	23.1	18.3
SA	7.2	8.0
WA	9.1	10.1
Tas	2.0	2.4
NT	1.1	1.0
ACT	1.1	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

The industry has an older workforce than the Australian labour force as a whole. Only about 10% of workers in the industry are aged under 25, compared with 18.4% overall. Nearly 35% of the industry's workers are aged over 45, compared with fewer than 31% for the total labour force. A slightly greater proportion of workers in the transport and storage industry were born overseas, 25.1%, than for the total labour force, 24%.

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- The transport and storage industry is growing relatively slowly but is marked by rapid change in its component sub-divisions, with strong employment growth occurring in air and sea transport and in storage.
- It is an industry characterised by older, male, full-time employment, and relatively long weekly working hours.
- The industry is more concentrated in Queensland, New South Wales and the Northern Territory.
- Employment levels in the industry have fluctuated under the influence of both changing levels of tourism and the general level of domestic economic activity.
- The Asian financial crisis is likely to slow down growth in the tourism-related parts of the industry.

Occupational composition

The following table shows the broad occupational groups within the transport and storage industry, and compares their percentage share with the total workforce.

Table 9.4: Occupational profile, transport and storage industry and total workforce, Australia, November 1997

Occupation group	Transport and storage %	Total workforce %
Managers and administrators	3.9	7.6
Professionals	6.8	17.4
Associate professionals	5.4	10.5
Tradespersons and related	4.9	13.2
Advanced clerical and service	6.1	4.5
Intermediate clerical/sales/service	17.2	17.1
Intermediate production/transport	46.3	9.2
Elementary clerical/sales/service	5.3	10.5
Labourers and related	4.2	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

From table 9.4 it is apparent that the occupational composition of the industry varies markedly from the pattern applying to the workforce as a whole. As might be expected, almost half the workers in this sector are classified in the intermediate production and transport group of occupations. This group includes road, bus, tram, taxi and rail drivers and storepersons.

Only 10.7% of the industry are people classified as managers or professionals, compared with 25% for the overall workforce. Associate professionals and tradespersons make up only a further 10.3% of the transport and storage labour force compared with 23.7% across the total workforce.

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The qualifications profile of the industry, shown in table 9.5 reflects, to a degree, the occupational structure described above. The proportion of workers in the industry without formal post-school qualifications is the third highest in Australia, behind agriculture, and accommodation, cafés and restaurants.

In line with low proportions of professional and associate professional jobs, there are relatively few university graduates or graduates with higher-level VET qualifications in transport and storage than in the workforce as a whole.

Table 9.5: Qualifications of transport and storage industry workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Transport and storage	7.8	6.9	14.8	8.3	62.0
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Despite the relatively low level of jobs in the industry designated as skilled trades, only 4.9% of the industry's jobs, there is an above-average proportion of workers in the industry with trades-level qualifications.

This phenomenon occurs in several other industries, such as wholesaling, and might indicate that transport and storage is a destination industry for those tradespersons who leave their trade area to work in an occupation not directly related to their trade. Given the advantage of mechanical knowledge for transport drivers, it could be surmised that motor mechanics leave their trade to become drivers. It is worth noting that truck driver is the second largest individual occupational category for males in Australia, after sales assistant, and the largest full-time occupation for males overall.

Occupational trends and skills shortages

This analysis of occupational trends uses the first edition Australian Standard Classification of Occupations (ASCO) code. The second edition of ASCO, used in table 9.4, was introduced recently and groups occupations differently, which makes analysis of time book data more difficult. For this reason, the analysis covers the decade from 1987 to 1996.

Over that decade, the transport and storage industry grew more slowly, by 5.2%, than the workforce overall, which grew by 16.9%. Two broad occupational categories within the industry actually declined over the decade: tradespersons by about 1.5%, and labourers and related by nearly 21%. Across all industry categories, tradespersons' numbers grew over the decade by 6.4% while labourers grew by 9.8%, both well below the growth rate for all jobs.

Table 9.6 shows the occupations in the industry that experienced above-average growth over the decade. A full listing of the numbers in all occupations in the industry is in table A9.3 in the appendix.

In the 1997 ESS, respondents were asked whether they believed there were any areas within their industry where there were insufficient VET graduates to meet their needs. Within the transport and storage industry, a low 22% of employers said that there were shortages. As with most industries, the most common area of shortage was identified as in the trades category. No more specific data are available, however, from this source.

The Department of Employment, Education, Training and Youth Affairs (DEETYA) skilled vacancy survey does, however, show strong growth in demand over the last year for automotive tradespersons, an occupation that grew strongly in this industry over the last decade. A recently released survey by the Australian Chamber of Commerce and Industry (ACCI) found shortages of automotive tradespersons across Northern Australia, while Commonwealth Employment Service (CES) data for Northern Australia showed vacancies for automotive tradespersons as being hard to fill.

Table 9.6: Employment growth '000s by occupation, transport and storage industry, Australia, 1987–1996—occupations with above-average growth

Occupation	Employment 1987	Employment 1996	% change
Supply and distribution managers	2.8*	3.8	36
Managing supervisors	5.2	6.8	31
Aircraft pilots	3.0*	4.8	60
Metal fitters and machinists	3.6	5.4	50
Vehicle mechanics	5.1	8.1	59
Computer operators	3.3*	6.5	97
Accounting clerks	20.8	24.8	19
Stock/purchasing clerks	1.9*	3.7	95
Receptionists/info clerks	3.1*	6.1	97
Ticket salespersons	8.4	10.8	29
Travel agents	12.4	17.1	38
Travel stewards	5.7	8.4	47
Automobile drivers	23.0	28.8	25
Forklift drivers	3.2*	4.4	38
Storepersons	4.4	5.9	34

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

Given that most of the workers in the industry have either no post-school qualifications or commonly lower-level formal qualifications, it is unlikely that there are chronic or widespread shortages in the industry. Some reports have suggested that there are likely to be shortages of workplace trainers and bus operators, and that 30% of the workforce has less than optimal levels of literacy.

In 1997 the national industry training advisory body (ITAB), the Transport and Distribution ITAB, reported as follows to the Australian National Training Authority (ANTA) on the industry's view of skill shortages:

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There is no existing statistical basis from which skills shortages can be derived. Information is drawn from previous industry VET plans, and from anecdotal evidence. Skill shortages are national unless otherwise specified.

Drivers (road transport) appear to have skill deficits in the areas of:

- *literacy and numeracy (with an estimated 10% being illiterate)*
- *knowledge of dealing with transportation of dangerous goods*
- *computer skills*
- *small business management (in an industry dominated by small operators, many being husband-and-wife firms)*

Train driver shortages in New South Wales, Queensland and Western Australia represent an ageing workforce and insufficient internal recruitment.

Other national skill shortages, together with the sectors in which they are most critical, include:

- *literacy and numeracy (distribution, where approximately 10% of the workforce is illiterate)*
- *customer service and communication (distribution)*
- *basic computer skills (distribution)*
- *management planners and schedulers (public transport)*
- *station staff (public transport)*
- *first-level management skills (cross-industry shortage)*

Causes of skill shortages include the demands of a competitive environment, increased customer focus, the development of flatter structures, together with devolution of responsibility, and the need to develop skills, including computer skills, to meet the challenge of an increasingly technological environment.

Hours of work and earnings

As noted earlier, the industry has a relatively high proportion of full-time jobs at over 77%—only mining, the utilities, and construction have a higher proportion. Average weekly hours worked in the industry are also high, 40.3 hours against an all-industry average of 35.6 hours, making it the third highest industry in terms of average weekly hours worked, behind agriculture and mining.

Table 9.7: Transport and storage industry employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	274.6	81.2	26.6	52.6	301.2	77.4
Females	63.7	18.8	24.1	47.6	87.8	22.6
Total	**338.3**	**100.0**	**50.6**	**100.0**	**389.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

Average weekly non-managerial full-time earnings in 1996 were quite high at $743, compared with the all-industry average of $683. The male rate in this category was $782, while females earned $607. In 1993–1994 total annual labour costs per employee

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in the industry were among the highest at $44 253, third to mining, and communication services, and well above the all-industry average of $32 755.

- The occupational profile of this industry shows relatively low proportions of workers in professional, associate professional and trade occupations.
- The largest concentration of occupations occurs in the intermediate production and transport occupations, which includes the large occupations of truck drivers and storepersons.
- Relatively few workers in the industry possess high-level VET or university qualifications and a high proportion have no post-school qualifications.

Training in transport and storage

There is a difficulty with existing training statistics when an analysis of training activity by industry is attempted. Students enrolled in TAFE colleges and with other VET providers are not necessarily associated with an employer and hence with a specific industry. ANTA attempts to relate each course to the industry most likely to employ graduates of that course, but this is obviously a difficult task.

Fortunately there is a training area designated transport and storage. In 1996 just 0.6% of total government-funded training was allocated to this area, well below the sector's share of total employment. It should be kept in mind, however, that only about 55% of the total VET funding was allocated to specific industry areas. The remainder was allocated to the more general areas of business and clerical training, computing, general education etc. Of course, graduates from these courses would often have acquired skills appropriate to the transport and storage industry.

Nevertheless, transport and storage was the area that received the lowest level of funding on the basis of hours of government-funded training per employee in the industry. Transport and storage received about three hours per employee compared with an average of 27 hours.

Unfortunately neither the field of study codes nor the discipline group codes used in the compilation of VET statistics allows the identification of students enrolled in courses leading to employment in transport and storage.

Employer satisfaction with VET

The 1997 ESS included 183 employers in the transport and storage industry. Employers were asked to provide a measure of their overall satisfaction with VET on a 10-point scale. Employers in the industry gave VET a score of 6.5, the third lowest rating of all industries, ahead of only accommodation, cafés and restaurants, and mining (mean for all industries was 6.6).

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The two areas where most transport and storage industry employers wanted to see improvement in VET provision were:

- the work ethic of VET graduates
- the balance between theory and practice

In both these areas, employers in this industry were much more likely than employers overall to identify these areas as shortcomings in VET delivery. In the case of the latter, they were the industry that expressed the greatest concern over the balance between theory and practice. Overall satisfaction with TAFE was rated the same 6.5 as the more broadly defined VET sector. Variations between States were not great, with the Australian Capital Territory receiving the lowest rating of 5.5 and South Australia and Western Australia the highest at 7.

VET graduates in transport and storage

In the 1997 TAFE GDS there were 1261 respondents surveyed who were working in the transport and storage industry, or 2.9% of the total number surveyed, a similar proportion to the 3% in the equivalent survey in 1995. Graduates working in the industry were not as critical of VET provision as were their employers.

While only 46.1% of the surveyed graduates working in the industry rated their course as 'highly relevant', this placed them in the middle range of the industries in this regard. The following table compares overall ratings of 'highly relevant' in the 1995 and 1997 surveys in a range of industries. The reduction in the score for relevance in the transport and storage industry between the two surveys is quite marked.

Table 9.8: Proportion of TAFE graduates by industry rating their course 'highly relevant', 1995 and 1997 GDS

Industry	Proportion rating 'highly relevant'	
	1995 survey	1997 survey
Transport and storage	**52**	**46**
Manufacturing	52	51
Wholesale	44	40
Retail trade	39	38
Accommodation, cafés and restaurants	51	45
Property and business services	55	51
Construction	70	69
Health and community services	62	62

Source: NCVER, *TAFE graduate destination survey 1997: National report*; ABS, *1995 Graduate outcomes, technical and further education, Australia*

In the case of respondents employed in transport and storage, 56.5% were in New South Wales, well above that State's share of employment in the industry.

Graduates were also asked to rate various aspects of their course on a 10-point scale. The following analysis of these responses groups the number giving a score of 7 or more out of 10 and compares this with the responses of all graduates in the survey. On most items, graduates working in transport and storage gave average or slightly

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below-average ratings to the various aspects of their course. The aspects of the course that they gave relatively low ratings to were as follows:

- course content reflecting industry practice
- quality of equipment for practising skills
- availability of equipment for practising skills
- information about careers and jobs
- balance between instruction and practice

Relatively high ratings were given to:

- qualification well regarded by employers
- convenience of venue and class times

The lowest rating item, both in this industry and across all industries, was the adequacy of the provision of information on jobs and careers. Only 38.2% of graduates working in the industry gave this item a rating of 7 or better, compared with 41% of all graduates. This indicates that this is an area in need of attention.

Graduates were also asked to identify their reasons for undertaking their course and whether they had achieved their aim. For graduates working in the transport and storage industry, the following table shows the reasons for doing their course and whether they achieved their aim.

Table 9.9: Graduates working in transport and storage, reasons for undertaking course and % achieving aim

Reason	Number	% fully achieving	% partly achieving
To get a job	313	66.8	18.5
Try for different career	210	57.6	18.1
Get a better job/promotion	232	50.0	21.6
Requirement of job	146	91.1	4.1
Get extra skills for job	180	71.1	21.1
Interest/personal development	135	83.7	10.4

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Graduates working in the industry most commonly had completed a certificate (other) (23.3%), an associate diploma (15.1%) or an advanced certificate (14.1%). This was an interesting outcome as it suggests that employers in the industry were seeking relatively high-level VET credentials in their recruits, the proportion with an associate diploma or advanced certificate being above the total share of employed graduates with such a credential.

Graduates in the industry who had been employed during the final semester of their course were slightly more likely than the average graduate to have received some form of financial support from their employer. Of all graduates working in the industry, 52.1% received some form of support, mainly in the form of payment of fees or paid time off work. This compares to around 51% support for all industries.

Of those working in the industry when surveyed, 62.5% already had a job when they were surveyed, slightly below the all-industry average. Nearly 10%, a relatively

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high proportion, had taken more than three months to secure their job. For an above-average proportion of these people, this was their first job. Reflecting the overall pattern of employment in the industry, 76% were working full time, well above the 66% of all graduates surveyed across all industries.

Employer support for training

In 1996 the ABS conducted a survey for the September quarter of that year looking at employer expenditure on structured training, following up a similar survey undertaken in 1993.[1] Transport and storage industry employers were divided between air and space transport and other transport (meaning road, rail, sea and other) and storage.

Overall average expenditure per employee by employers in the industry was $251, well above the all-industry average of $185. This was the product of very high levels of expenditure by the air transport sector, combined with close to average expenditure by the remainder of the industry.

The air transport industry spent, on average, $557 per employee, second only to the mining industry. This provided 13.28 hours of training per employee compared with the all-industry average of 4.91 hours. It also represented an increase over the level provided in 1993 when air transport employers provided 12.21 hours of training per employee. Between 1993 and 1996 there was an overall reduction in the average hours of training provided by all employers of about 11.5%. This emphasises the strong training effort made by employers in the air transport industry.

The other areas of transport and storage provided structured training at about the average of all employers. In 1996 they spent just under the all-industry average of $185.49 per employee and provided 4.56 hours of training against the all-industry average of 4.91.

In line with the air transport sector, employers in other transport and storage also increased their training effort between 1993 and 1996, against the all-industry trend. In 1993 other transport and storage employers spent $168 per employee and provided 4.26 hours of training. So, while in 1996 their training expenditure was only average, they were on a rising trend compared with the falling trend across all industries.

A later ABS survey, *Employer training practices, Australia* (cat.6356.0), undertaken in February 1997, suggests that this rising trend continued in the industry at least up to early 1997. The employers included in this survey were the same employers contacted for the 1996 training expenditure survey. However, training practices data were collected for the previous 12 months rather than the three months in the training expenditure survey.

No reliable data are available on the level of apprenticeships and traineeships in the industry.

[1] ABS, *Employer training expenditure, Australia*, cat.6353.0, July to September 1996

- The transport and storage industry appears to receive relatively little direct government VET funding in comparison with other industry sectors.
- Employers in the industry are relatively dissatisfied with VET provision.
- VET graduates working in the industry are generally less critical of VET provision than their employers. However, they were critical of inadequate provision of equipment for practising industry-specific skills.
- VET graduates in this industry, as with all other VET graduates, were critical of the inadequacy of information on jobs and careers.
- Employers in the air transport sector are among the highest spenders of all industry groups on structured training for their employees.

Some training issues in transport and storage

- There appears to be a very low level of government-funded VET provision for skills specific to the transport and storage industry. ANTA figures show only about three hours of training per employee in the industry was funded by government, compared with an all-industry average of 27 hours per employee.
- The skills profile of the industry is low, with a high proportion of the workforce lacking formal post-school qualifications. Evidence has been quoted of problems of inadequate literacy skills in the industry. The high rate of change in the industry's composition and occupational make-up suggests that urgent attention needs to be given to identifying likely skills shortages, especially in the air and water transport sectors and in the small, but growing, storage sector.

- Skill needs in the largest component of the industry, road transport, appear to require more attention and perhaps would indicate reallocation of government resources into this area.
- Employment in the storage sub-division has grown strongly in recent years. The training needs of this sector need to be examined and addressed more explicitly.
- The pattern of recruitment into the industry of TAFE graduates in 1997 indicates a demand for more highly qualified recruits. However, it is difficult to identify, using current VET statistical definitions, those students currently enrolled who are likely to find employment in the industry.
- The marked variations in male and female TAFE graduate full-time earnings in the industry suggest that any expansion of government funding for the industry should be accompanied by an analysis of occupational segregation in the industry and gender equity strategies to reduce this level of discrimination.

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Appendix

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A9.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

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Table A9.2: Employment in transport and storage, November 1987 to November 1997

	Nov.1987	Nov.1988	Nov.1989	Nov.1990	Nov.1991	Nov.1992	Nov.1993	Nov.1994	Nov.1995	Nov.1996	Nov.1997
Transport and storage	373.3	372.7	387.2	378.2	377.7	348.6	357.9	378.6	386.2	392.6	389
Road transport	180.3	172.5	181.6	183.3	184.8	162.8	176.8	173.1	192.0	182.4	197
Rail transport	73.9	69.4	61.2	62.0	66.2	53.9	52.3	55.2	45.5	50.5	41.6
Water transport	8.2	9.0	10.8	7.9	7.0	8.0	7.3	10.1	10.1	10.9	12.1
Air and space transport	32.5	34.6	44.0	39.0	32.6	36.2	31.3	45.5	45.1	50.9	45.6
Other transport	1.8	0.7	1.7	2.8	1.8	2.0	2.4	8.4	6.9	9.2	6.3
Services to transport	67.7	75.0	71.5	65.1	70.0	66.9	65.8	67.4	68.8	67.2	67.3
Storage	8.9	11.6	16.4	17.9	15.0	18.0	21.9	19.0	17.8	21.5	19.0

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

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Table A9.3: Employed persons, by occupation, in the transport and storage industry, 1987 and 1996

ASCO code and occupation	1987 ('000s)	1996 ('000s)	Change 1987 to 1996 ('000s)	Change 1987 to 1996 Average annual %
1307 Supply and distribution managers	2.8	3.8	1.0	3.6
1599 Other managing supervisors (sales and service)	3.8	2.2	–1.6	–6.1
1601 Managing supervisors (other business)	5.2	6.8	1.6	3.1
3301 Aircraft pilots	3.0	4.8	1.8	5.5
4103 Metal fitters and machinists	3.6	5.4	1.8	4.7
4211 Aircraft maintenance engineers	3.7	4.1	0.4	1.2
4601 Vehicle mechanics	5.1	8.1	3.0	5.4
5101 Office secretaries and stenographers	7.4	5.6	–1.8	–3.1
5201 Data processing machine operators	3.3	6.5	3.2	8.1
5301 Accounting clerks	20.8	24.8	4.0	2.0
5503 Transport recording and despatching clerks	14.1	12.5	–1.6	–1.4
5505 Stock and purchasing clerks	1.9	3.7	1.8	7.9
5601 Receptionists and information clerks	3.1	6.1	3.0	8.0
5999 Other clerks	4.6	0.8	–3.8	–18.1
6405 Ticket salespersons	8.4	10.8	2.4	2.9
6507 Travel agents	12.4	17.1	4.7	3.7
6609 Travel stewards	5.7	8.4	2.7	4.5
7101 Bus and tram drivers	23.1	23.8	0.7	0.3
7103 Automobile drivers	23.0	28.8	5.8	2.6
7105 Truck drivers	81.8	90.7	8.9	1.2
7107 Locomotive drivers	13.2	7.4	–5.8	–6.4
7203 Forklift and related drivers	3.2	4.4	1.2	3.7
7399 Other stationary plant operators	5.5	4.2	–1.3	–3.0
8301 Cleaners	4.6	4.5	–0.1	–0.3
8413 Railway labourers	8.9	4.1	–4.8	–8.5
8903 Luggage porters	3.5	2.8	–0.7	–2.5
8907 Storemen/women	4.4	5.9	1.5	3.4
8909 Freight and furniture handlers	8.7	6.2	–2.5	–3.8
8911 Guards and security officers	5.2	2.5	–2.7	–8.0
8925 Fishermen/women deckhands and seamen/women	3.6	4.0	0.4	1.2
8999 Other labourers and related workers	4.1	2.4	–1.7	–5.9
Other occupations	73.0	71.1	–1.9	–0.3
Total all occupations	**374.7**	**394.3**	**19.6**	**0.6**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category

Source: ABS, Labour force survey, unpublished data

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Table A9.4: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	3 672	1 137	931	2 231	852	8 823	1 469	10 424	20 716
2 Professionals	5 695	4 124	1 882	2 220	1 045	14 966	1 905	5 343	22 214
3 Associate Professionals	1 761	919	1 375	3 703	1 033	8 791	1 771	13 571	24 133
4 Tradespersons and Related Workers	218	195	447	12 883	278	14 021	1 124	4 347	19 492
5 Advanced Clerical and Service Workers	1 472	930	653	997	1 088	5 140	1 779	11 014	17 933
6 Intermediate Clerical, Sales and Service Workers	4 139	2 927	3 181	3 177	4 087	17 511	5 666	32 831	56 008
7 Intermediate Production and Transport Workers	2 650	1 380	1 239	21 595	2 928	29 792	8 281	94 911	132 984
8 Elementary Clerical, Sales and Service Workers	1 232	639	666	1 585	819	4 941	1 391	12 538	18 870
9 Labourers and Related Workers	193	113	124	1 677	248	2 355	962	11 733	15 050
0 Inadequately described	124	62	85	598	74	943	284	1 876	3 103
Not stated	37	19	19	138	22	235	269	1 070	1 574
Not applicable	–	–	–	–	–	–	–	–	–
Total	**21 193**	**12 445**	**10 602**	**50 804**	**12 474**	**107 518**	**24 901**	**199 658**	**332 077**

Source: ABS, 1996 Census of population and housing

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Table A9.5: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals.)	Total
ASCO code and occupation									
100 Managers and Administrators nfd	389	142	109	420	126	1 186	284	1 829	3 299
110 Generalist Managers nfd	0	0	0	0	0	0	0	3	3
111 General Managers and Administrators	729	263	121	280	149	1 542	264	1 488	3294
119 Miscellaneous Generalist Managers	133	42	36	157	31	399	79	342	820
120 Specialist Managers nfd	111	29	23	33	20	216	29	154	399
121 Resource Managers	784	133	175	82	74	1 248	125	762	2 135
122 Engineering, Distribution and Process Managers	694	228	228	925	238	2 313	395	3 911	6 619
123 Sales and Marketing Managers	515	161	115	158	131	1 080	160	1 110	2 350
129 Miscellaneous Specialist Managers	304	127	110	127	73	741	91	467	1 299
131 Farmers and Farm Managers	15	12	14	48	10	99	42	360	501
200 Professionals nfd	76	12	10	25	11	134	14	53	201
210 Science, Building and Engineering Professionals nfd	0	0	3	0	0	3	0	0	3
211 Natural and Physical Science Professionals	71	3	10	3	6	93	5	24	122
212 Building and Engineering Professionals	847	84	177	373	20	1 501	87	189	1 777
220 Business and Information Professionals nfd	19	3	5	4	0	31	0	18	49
221 Accountants, Auditors and Corporate Treasurers	1 407	144	406	16	45	2 018	155	603	2 776
222 Sales, Marketing and Advertising Professionals	317	69	67	75	68	596	85	473	1 154
223 Computing Professionals	841	103	140	91	86	1 261	96	602	1 959
229 Miscellaneous Business and Information Profs	620	119	147	242	118	1 246	154	874	2 274
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	19	0	0	0	0	19	0	3	22
232 Nursing Professionals	24	23	0	3	3	53	4	11	68
238 Miscellaneous Health Professionals	12	4	0	0	0	16	0	3	19

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Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals.)	Total
240 Education Professionals nfd	0	0	0	0	0	0	0	3	3
241 School Teachers	21	6	3	3	0	33	4	10	47
242 University and Vocational Education Teachers	22	6	3	12	3	46	3	7	56
249 Miscellaneous Education Professionals	25	13	7	22	4	71	14	54	139
250 Social, Arts and Miscellaneous Professionals nfd	6	0	0	0	0	6	0	0	6
251 Social Welfare Professionals	31	12	10	11	9	73	14	48	135
252 Miscellaneous Social Professionals	147	14	12	18	12	203	19	64	286
253 Artists and Related Professionals	62	26	15	35	19	157	28	128	313
254 Miscellaneous Professionals	1 128	3 482	866	1 285	643	7 404	1 223	2 177	10 804
300 Associate Professionals nfd	20	6	12	21	12	71	8	95	174
310 Science/Engineering and Related Assoc Profs nfd	5	6	86	70	8	175	10	17	202
311 Medical and Science Technical Officers	19	3	17	23	6	68	10	26	104
312 Building/Engineering Associate Professionals	58	75	407	591	60	1191	60	203	1 454
320 Business and Administrative Assoc Profs nfd	3	0	3	0	0	6	0	6	12
321 Finance Associate Professionals	90	11	27	25	31	184	37	224	445
329 Miscellaneous Business/Admin Assoc Profs	708	275	403	461	348	2195	466	3 110	5 771
330 Managing Supervisors (Sales and Service) nfd	0	3	3	6	3	15	0	16	31
331 Shop Managers	44	24	19	76	23	186	43	395	624
332 Hospitality and Accommodation Managers	45	42	27	297	33	444	79	409	932
339 Miscellaneous Mngr. Supervisors (Sales and Service)	697	437	322	1 976	467	3 899	981	8 563	13 443
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	0	0	0	0	4	4	0	3	7
342 Welfare Associate Professionals	0	0	0	0	0	0	0	7	7
349 Miscellaneous Health and Welfare Associate Profs	0	3	9	3	7	22	3	10	35
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0
391 Police Officers	0	3	0	5	3	11	4	10	25
399 Miscellaneous Associate Professionals	70	34	41	149	28	322	69	478	869

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Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals.)	Total
400 Tradespersons and Related Workers nfd	6	4	19	277	3	309	23	147	479
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	11	0	11	0	3	14
411 Mechanical Engineering Tradespersons	88	91	183	5 066	73	5 501	303	1 026	6 830
412 Fabrication Engineering Tradespersons	3	0	7	776	15	801	85	364	1 250
421 Automotive Tradespersons	8	16	32	3 244	32	3 332	278	912	4 522
431 Electrical and Electronics Trades	49	25	152	2 187	60	2 473	166	578	3 217
440 Construction Tradespersons nfd	0	0	0	0	3	3	0	0	3
441 Structural Construction Trades	4	3	6	375	9	397	48	199	644
442 Final Finishes Construction Trades	0	3	3	138	6	150	20	81	251
443 Plumbers	3	3	7	178	3	194	13	36	243
451 Food Tradespersons	11	10	5	127	16	169	26	186	381
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	3	0	0	9	0	12	5	19	36
462 Horticultural Tradespersons	6	5	5	53	11	80	28	174	282
490 Other Tradespersons and Related Workers nfd	0	0	0	3	0	3	0	0	3
491 Printing Tradespersons	5	5	5	24	8	47	9	53	109
492 Wood Tradespersons	0	0	0	35	3	38	9	18	65
493 Hairdressers	0	0	0	15	0	15	3	3	21
494 Textile, Clothing and Related Trades	0	0	0	16	0	16	3	27	46
498 Miscellaneous Tradespersons and Related Wkrs	30	26	23	350	36	465	106	521	1 092
500 Advanced Clerical and Service Workers nfd	0	0	0	0	0	0	3	5	8
511 Secretaries and Personal Assistants	233	221	160	166	530	1 310	827	4 182	6 319
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	187	104	158	90	134	673	293	2 519	3 485
599 Miscellaneous Advanced Clerical and Service Wkrs	052 1	605	334	741	424	3 156	658	4 307	8 121
600 Intermediate Clerical, Sales and Service Wkrs nfd	15	8	13	11	17	64	15	98	177
610 Intermediate Clerical Workers nfd	3	0	0	0	0	3	3	26	32

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Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals.)	Total
611 General Clerks	385	192	228	339	431	1 575	709	6 600	8 884
612 Keyboard Operators	134	68	97	81	197	577	277	1 905	2 759
613 Receptionists	50	59	73	47	184	413	202	1 295	1 910
614 Intermediate Numerical Clerks	311	106	354	118	234	1 123	335	2 853	4 311
615 Material Record and Despatch Clerks	435	297	402	1 138	735	3 007	944	7 232	11 183
619 Miscellaneous Intermediate Clerical Workers	187	107	146	330	199	969	291	2 467	3 727
621 Intermediate Sales and Related Workers	361	221	180	299	190	1 251	226	2 096	3 573
630 Intermediate Service Workers nfd	4	3	3	9	0	19	7	31	57
631 Carers and Aides	16	12	6	27	14	75	20	159	254
632 Hospitality Workers	33	11	20	29	21	114	39	332	485
639 Miscellaneous Intermediate Service Workers	2 207	1 843	1 659	748	1 862	8 319	2 598	7 737	18 654
700 Intermediate Production and Transport Wkrs nfd	6	5	0	141	16	168	52	629	849
710 Intermediate Plant Operators nfd	3	3	0	74	12	92	29	324	445
711 Mobile Plant Operators	65	53	50	1 176	135	1 479	428	5 706	7 613
712 Intermediate Stationary Plant Operators	27	21	28	448	88	612	224	3 050	3 886
720 Intermediate Machine Operators nfd	19	16	13	263	36	347	122	1 038	1 507
721 Intermediate Textile/Clothing/Related Mach Ops	0	0	0	8	0	8	4	44	56
729 Miscellaneous Intermediate Machine Operators	0	3	0	21	3	27	4	76	107
731 Road and Rail Transport Drivers	2 354	1 165	1 027	18 236	2 192	24 974	6 704	78 065	109 743
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	3	3
791 Intermediate Mining and Construction Workers	3	0	0	42	25	70	18	120	208
799 Misc Intermediate Prod'n and Transport Wkrs	173	115	119	1 186	420	2 013	696	5 858	8 567
800 Elementary Clerical, Sales and Service Wkrs nfd	16	3	11	24	14	68	13	238	319
811 Elementary Clerks	74	26	33	80	68	281	123	1134	1538
820 Elementary Sales Workers nfd	0	3	0	0	0	3	0	11	14
821 Sales Assistants	186	65	102	130	115	598	168	1 399	2 165
829 Miscellaneous Elementary Sales Workers	767	472	459	521	514	2 733	709	5 522	8 964

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Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals.)	Total
831 Elementary Service Workers	188	70	61	829	108	1 256	378	4 234	5 868
900 Labourers and Related Workers nfd	11	6	6	78	9	110	71	796	977
911 Cleaners	48	22	24	210	46	350	202	2 220	2 772
920 Factory Labourers nfd	0	0	0	0	0	0	0	5	5
921 Process Workers	12	5	5	82	20	124	42	698	864
922 Product Packagers	19	11	15	38	8	91	56	553	700
990 Other Labourers and Related Workers nfd	0	0	0	0	3	3	0	15	18
991 Mining, Construction and Related Labourers	28	4	19	405	32	488	239	3 017	3 744
992 Agricultural and Horticultural Labourers	4	3	9	30	12	58	15	248	321
993 Elementary Food Preparation and Related Wkrs	22	9	7	55	13	106	65	497	668
999 Miscellaneous Labourers and Related Workers	48	52	39	778	106	1 023	272	3 684	4 979
099 Inadequately described	124	62	85	598	74	943	284	1 876	3 103
Not stated	37	19	19	138	22	235	269	1 070	1 574
Not applicable	–	–	–	–	–	–	–	–	–
Total	**21 191**	**12 443**	**10 599**	**50 799**	**12 473**	**107 505**	**24 903**	**199 663**	**332 071**

Note: nfd – not further defined

Source: 1996 Census of population and housing

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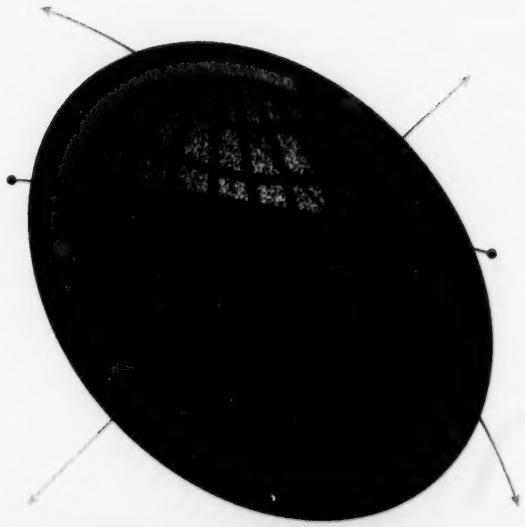

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